CENTRAL VALLEY WATER RECLAMATION FACILITY

Future Planning Issues

February 10	Granger-Hunter Improvement District
	Kearns Improvement District
February 11	Mount Olympus Improvement District
February 17	Murray City
February 18	Cottonwood Improvement District
February 23	Taylorsville-Bennion Improvement District
March 11	South Salt Lake City

CVWRF

History

- Federal Clean Water Act 1972
- CVWRF formed as Interlocal Agreement Agency in 1978
- Permitted under UPDES Permit UT0024392
  - Permit Parameters – BOD, TSS, Ammonia, Total Coliform, TRC (Secondary Treatment Standards)
  - Five-year Permit Cycle
- Trickling Filter/Solids Contact Process

History (continued)

- Nutrients– Nitrogen and Phosphorus
  - Great Lakes Region 1970's
  - East Coast and Chesapeake Bay 1980's and 1990's
  - Mississippi Basin and Western States 2000's
- CVWRF joins Jordan River/Farmington Bay Water Quality Council 2008
  - Jordan River TMDL
  - Impounded Wetlands Studies/ GSL

History (continued)

- Utah Nutrient Strategy
  - Adaptive Management
  - Plan, Implement, Monitor, Assess…
- Technology Based Limits (TBL)
  - 1.0 mg/L P
  - 10.0 mg/L TIN (Total Inorganic Nitrogen)
- State of Utah Cost/Benefit Analyses
  - CVWRF 1.0 mg/L P
  - Chemical Precipitation
    - Capital Cost $1.7 M
    - Annual O&M $1M

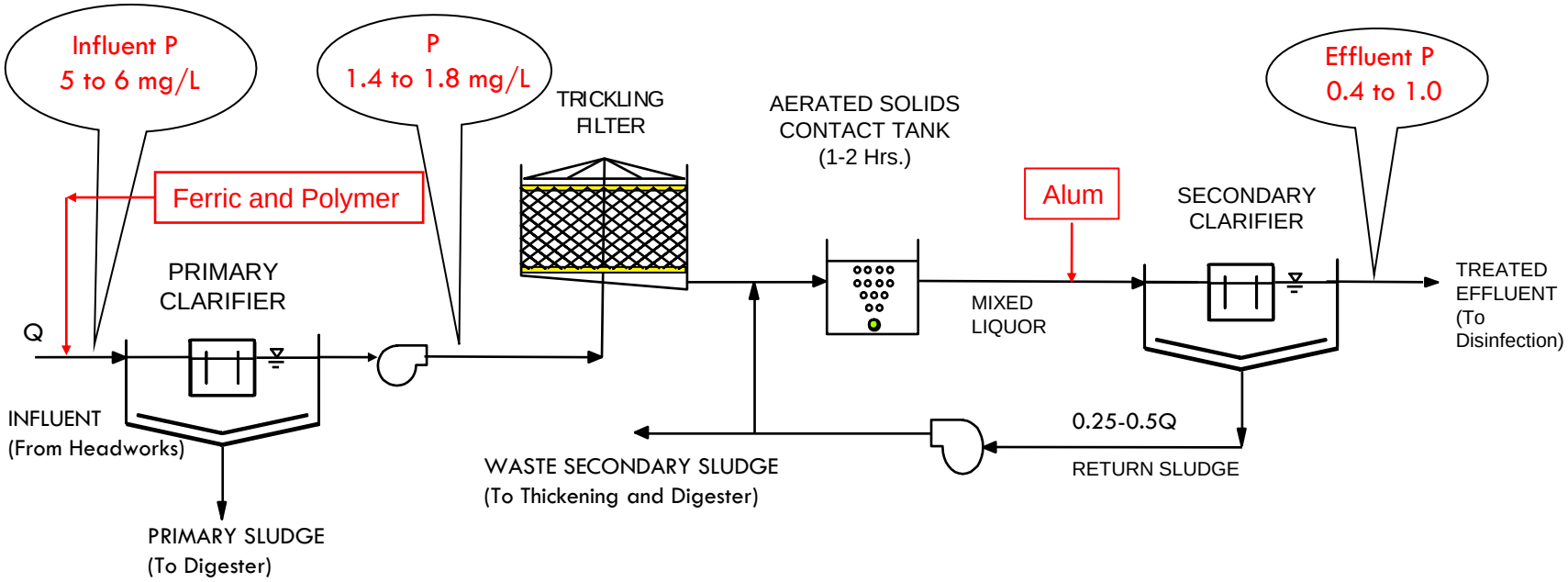
Permit Renewal

- Application was made 180 days prior to permit expiration
- Draft Waste Load Analysis (WLA) Received
  - Jordan River vs. Mill Creek Discharge
    - Whole Effluent Toxicity Testing
    - Ammonia Limits
    - Metals Limits
- Phosphorus Rule
  - Approved December, 2014
  - Five-year Compliance Schedule (2020)

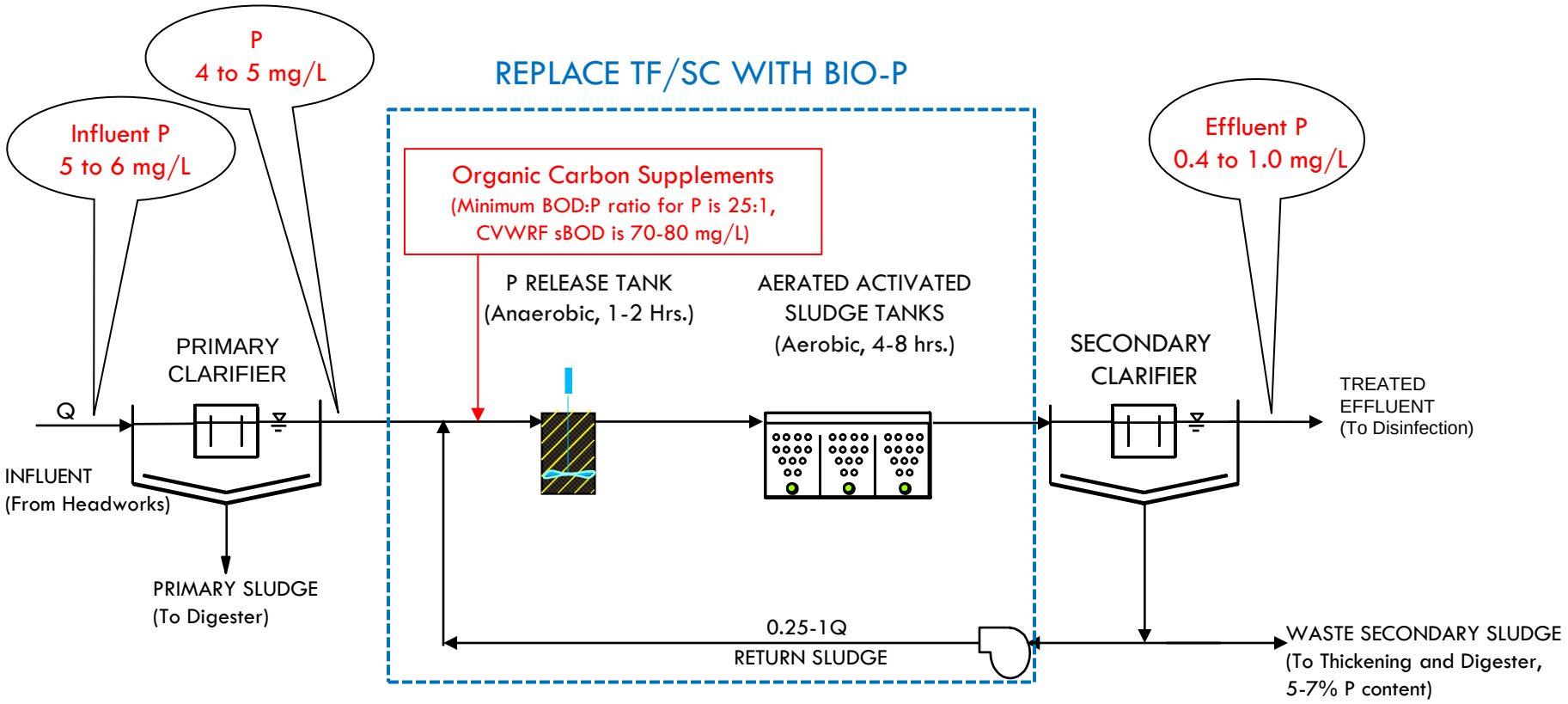
CVWRF Actions

- Plant Optimization Study (P & N) - 2013
- Jordan River/Mill Creek Hydraulics and UAA Studies – 2013 - 2014
- WET History and Variance Request - 2014
- Full Scale Chemical Precipitation Study - 2014
  - Chemical Dose up to 4x State Estimate (36 mg/L FeCl3)
  - Capital Cost Impacts - $8-10M
  - Annual O&M Cost - $3-4 M
  - 30-Year Present Worth - $70M, 50-Year $90M
  - Value of Dig. Volume Lost - $18.6 M
- Engineering Evaluations – 2015 $300-400K

CVWRF TF/SC Schematic with Chem. P. Removal

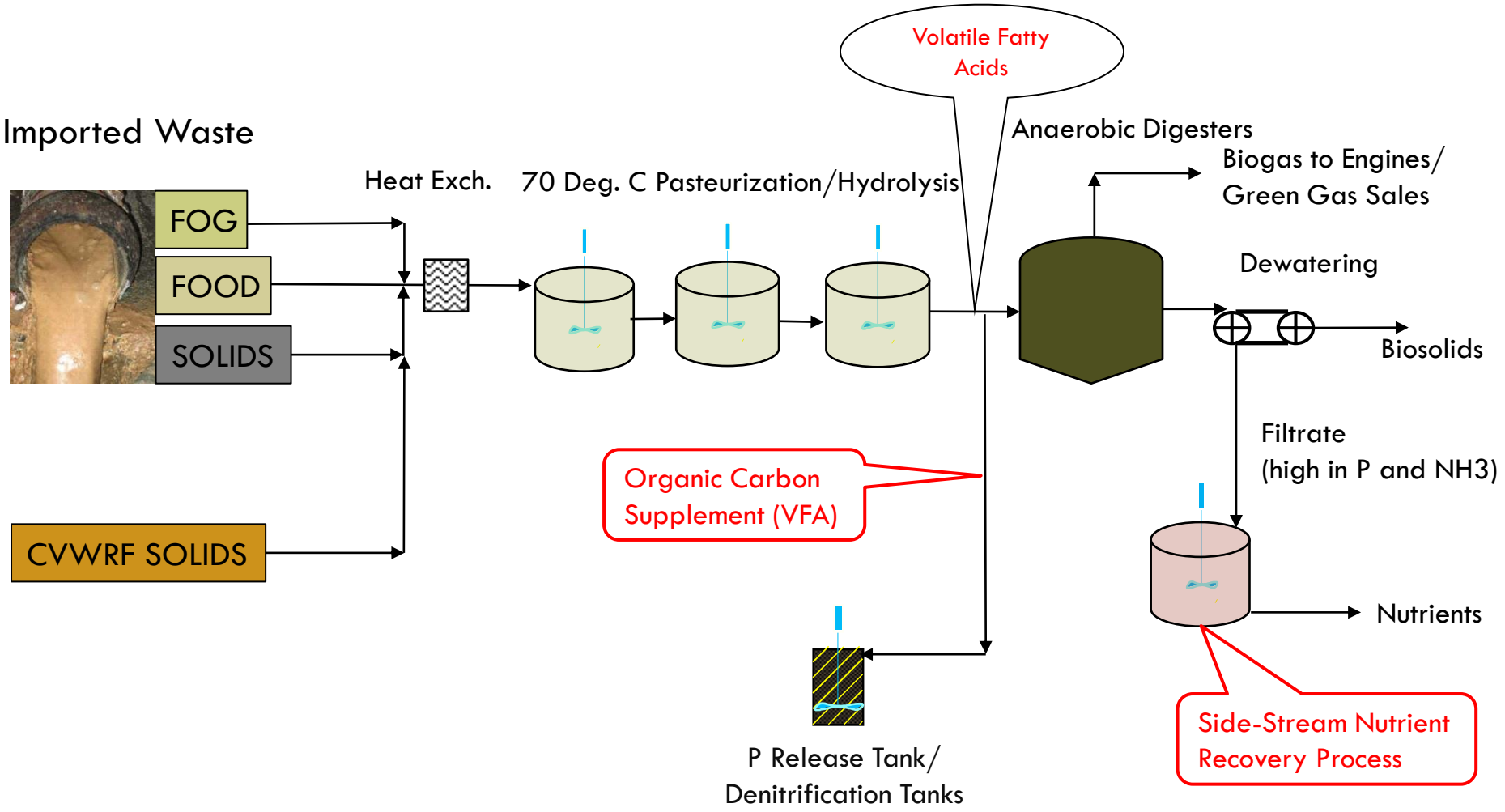


Typical Biological P Removal Schematic



Bio-P process shown is called A/O Process

Resource Recovery Project and Nutrient Removal Synergies



Resource Recovery Project

- CVWRF Mission Statement 2012-2013
  - "Central Valley Water Reclamation Facility's Mission is to improve the Utah environment by treating wastewater and recovering resources, safely, efficiently and sustainably"
- Background
  - Excess Digester and Cogeneration Capacities
  - RFP Issued March 2013
  - Consultant Team Selected July 2013
  - Feasibility Study Completed May 2014
  - MOU Signed July 2014

Future Regulatory Issues/ Opportunities

- Next Permit Cycle (5 Years)
  - Ammonia may decrease due to EPA's new 2013 Ammonia Criteria
  - Phosphorus Rule
  - Metals Limits
- Following Permit Cycle (10 Years)
  - Total Inorganic Nitrogen (TIN) Limit to 10 mg/L
- Future Permit Cycles (15-20+ Years)
  - Even Lower P and TIN limits, PCP's, Pharmaceuticals, ED's
- Opportunities
  - Recover Reuse Water, Biosolids, Nutrients and Energy
  - Interface with Private-Sector end-users.

Asset Management

- CVWRF is 30-year old
  - Design life for equipment is 20-25 years
  - Equipment/piping failing at increasing rate (GH Siphon)
- CVWRF to start A.M. Program to identify rehab. needs
- Non-critical components can be run to failure
- Critical components need to be rehabilitated/ replaced

Questions